

WHAT IS CLAIMED IS:

1 1. A rotary disk storage device comprising:
2 a head suspension assembly provided with a wiring structure
3 connected to a head;
4 an actuator assembly provided with an actuator arm connected on a
5 leading end side to said head suspension assembly and turning said actuator arm; and
6 a wire support member connected to a side surface of said actuator
7 arm, said wire support member comprising:
8 a fixing area for fixing said wiring structure to the side surface of
9 said actuator arm; and
10 an open area provided with an opposing surface protruding in a
11 lateral direction of said actuator arm so as to oppose said wiring structure and adjoining
12 said fixing area on a leading end side.

1 2. The rotary disk storage device according to claim 1, wherein a
2 length of said fixing area is selected so that the length falls within a range of about 60% to
3 90% of an entire length of said wire support member.

1 3. The rotary disk storage device according to claim 1, wherein an
2 outer front surface of said wire support member in said fixing area is substantially on the
3 same plane as a front surface of said actuator arm adjoining thereto.

1 4. The rotary disk storage device according to claim 1, wherein an end
2 portion of said open area on the leading end side terminates at a position adjacent to an
3 end portion of said head suspension assembly on a supporting end side.

1 5. The rotary disk storage device according to claim 1,
2 wherein said fixing area is provided with a first protruding wall
3 having an opposing surface opposing said wiring structure and protruding in the lateral
4 direction and a second protruding wall having an opposing surface opposing said wiring
5 structure and protruding in the lateral direction, said wiring structure being accommodated
6 between the opposing surface of said first protruding wall and the opposing surface of said
7 second protruding wall; and
8 wherein said open area is provided with a third protruding wall
9 having an opposing surface opposing said wiring structure and protruding in the lateral

10 direction, and adjoins said fixing area at an end portion of said second protruding wall on
11 the leading end side.

1 6. The rotary disk storage device according to claim 5, wherein either
2 said first protruding wall or said second protruding wall includes a separated area in a
3 longitudinal direction.

1 7. The rotary disk storage device according to claim 5, wherein said
2 first protruding wall is formed continuously with said third protruding wall in a
3 longitudinal direction.

1 8. The rotary disk storage device according to claim 5, wherein each
2 of the opposing surface of said first protruding wall and the opposing surface of said
3 second protruding wall is provided with a surface running in parallel, and a surface
4 inclined, with respect to a surface of said actuator arm, and the opposing surface of said
5 third protruding wall is provided with a surface inclined with respect to the surface of said
6 actuator arm.

1 9. The rotary disk storage device according to claim 8, wherein a gap
2 is provided between the opposing surface of said third protruding wall and said wiring
3 structure.

1 10. The rotary disk storage device according to claim 5, further
2 comprising another wiring structure connected to the head, wherein said wire support
3 member is further provided with a fourth protruding wall having an opposing surface
4 opposing said another wiring structure and protruding in the lateral direction in said fixing
5 area.

1 11. The rotary disk storage device according to claim 10, wherein the
2 outer front surface of said wire support member in said fixing area is substantially on the
3 same plane as each front surface of said actuator arm adjoining thereto.

1 12. The rotary disk storage device according to claim 1, wherein said
2 wiring structure is formed by laminating a metal layer, an insulation layer, and a
3 conductive layer, one on top of another.

1 13. The rotary disk storage device according to claim 12, wherein said
2 head suspension assembly includes a load beam connected in an overlapping manner to a
3 front surface of said actuator arm, a flexure connected in an overlapping manner to said
4 load beam, and a metal layer formed in the same process as said flexure.

1 14. The rotary disk storage device according to claim 1, wherein said
2 wire support member is connected to an outer side surface of said actuator arm.

1 15. A rotary disk storage device comprising:
2 a head suspension assembly provided with a wiring structure
3 connected to a head;
4 an actuator assembly provided with an actuator arm connected on a
5 leading end side to said head suspension assembly and turning said actuator arm; and
6 a wire support member connected to a side surface of said actuator
7 arm, said wire support member comprising:
8 a slit formed in a longitudinal direction of said actuator arm; and
9 a wall adjoining an end portion of said slit in the longitudinal
10 direction on a leading end side and providing an opposing surface for said wiring
11 structure.

1 16. The rotary disk storage device according to claim 15, wherein said
2 wall providing the opposing surface is a protruding wall selected from the group
3 consisting of a protruding wall provided with a curved continuous surface, a protruding
4 wall provided with an inclined single flat surface, a protruding wall provided with a single
5 flat surface without inclination, a protruding wall provided with two or more steps, and a
6 protruding wall provided with two or more flat surfaces having inclination angles different
7 from each other.

1 17. The rotary disk storage device according to claim 15, wherein said
2 slit is provided with a portion running in parallel, and a portion inclined, with respect to a
3 front surface of said actuator arm.

1 18. A wire support member connected to a side surface of an actuator
2 arm provided for a rotary disk storage device, for supporting a wiring structure connected
3 to a head, the wire support member comprising:

4 a fixing area for fixing said wiring structure to the side surface of
5 said actuator arm; and
6 an open area provided with an opposing surface protruding in a
7 lateral direction of said actuator arm so as to oppose said wiring structure and adjoining
8 said fixing area on a leading end side.

1 19. The rotary disk storage device according to claim 18, wherein a
2 length of said fixing area is selected so that the length falls within a range of about 60% to
3 90% of an entire length of said wire support member.

1 20. The rotary disk storage device according to claim 1,
2 wherein said fixing area is provided with a first protruding wall
3 having an opposing surface opposing said wiring structure and protruding in the lateral
4 direction and a second protruding wall having an opposing surface opposing said wiring
5 structure and protruding in the lateral direction, said wiring structure being accommodated
6 between the opposing surface of said first protruding wall and the opposing surface of said
7 second protruding wall; and
8 wherein said open area is provided with a third protruding wall
9 having an opposing surface opposing said wiring structure and protruding in the lateral
10 direction, and adjoins said fixing area at an end portion of said second protruding wall on
11 the leading end side.